

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (cancelled)
2. (previously presented) A method for using high affinity TCRs to identify ligands comprising:
labeling high affinity TCRs;
contacting said labeled TCRs with peptide/MHC ligands;
identifying the ligand with which the labeled TCR is bound, wherein said label is selected from the group consisting of: fluorescent compounds, chemiluminescent compounds, radioisotopes and chromophores.
- 3-4. (cancelled)
5. (previously presented) A method of using high affinity TCRs to bind to a selected peptide/MHC ligand comprising:
labeling said high affinity TCRs that binds to the selected peptide/MHC ligand with a label;
contacting said labeled high affinity TCRs with cells containing MHC molecules, wherein said label is selected from the group consisting of: fluorescent compounds, chemiluminescent compounds, radioisotopes and chromophores.
6. (previously presented) A method for using high affinity TCRs as diagnostic probes for specific peptide/MHC molecules on surfaces of cells comprising:
labeling high affinity TCRs that binds to specific peptide/MHC ligands with a label;
contacting said TCRs with cells;

detecting said label.

7. (previously presented) A method for using high affinity TCRs that bind to pMHCs for diagnostic tests comprising:
labeling the high affinity TCR with a detectable label;
contacting said labeled high affinity TCR with cells;
detecting the label.
8. (original) The method of claim 7, wherein the number of labels present is detected.
9. (original) The method of claim 7, wherein the location of the labels is detected in an organism.
10. (previously presented) The method of claim 7, wherein said labeled high affinity TCR binds to specific peptide/MHC ligands, whereby cells that express specific peptide/MHC ligands are targeted.
- 11-32. (cancelled)
33. (previously presented) A method for using high affinity T Cell Receptors (TCRs) to detect ligands comprising the steps of:
labeling high affinity TCRs;
contacting said labeled TCRs with peptide/MHC ligands;
detecting the presence of the label thereby detecting the ligand to which the labeled TCR is bound wherein the high affinity TCR carries one or more mutations in a CDR.
34. (original) The method of claim 33 wherein the one or more mutations are in CDR3 α or CDR3 β .

35. (cancelled)
36. (original) The method of claim 33 wherein the peptide/MHC ligand is on the surface of a cell.
37. (original) The method of claim 33 wherein the label is selected from the group consisting of:
fluorescent compounds, chemiluminescent compounds, radioisotopes and chromophores.
- 38-81. (cancelled)
82. (original) The method of claim 6, wherein said detecting step is performed by flow cytometry.
83. (original) The method of claim 7, wherein said detecting step is performed by flow cytometry